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A NEW MUSSEL, *DISCONAIAS CONCHOS* (BIVALVIA: UNIONIDAE) FROM RIO CONCHOS OF THE RIO GRANDE SYSTEM, MEXICO

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ABSTRACT: *Disconaias conchos*, a new species of Unionidae, and first member of the genus Disconaias, from the Rio Grande System, Mexico, is described.

INTRODUCTION

A number of years ago, Dr. D. W. Taylor submitted a manuscript to Richard I. Johnson for his comments on some Unionidae from the Rio Grande System of Mexico and Texas. The latter disagreed with some of its conclusions, and Taylor suggested that Johnson present his own interpretation of the data. In the manuscript Taylor proposed the new species described here. Though the kindness of Dr. James H. McLean of the Natural History Museum of Los Angeles County, Los Angeles, California, the original specimens were

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made available with permission for one to be retained buy the Museum of Comparative Zoology. Taylor's manuscript is presented here, essentially in its original form, but photographs have been substituted for the original line drawings of the holotype and an additional record, extending the distribution of the species, has been included.

Abbreviations:

MCZ: Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts

LACM: Natural History Museum of Los Angeles County, Los Angeles, California

Family UNIONIDAE
Subfamily LAMPSILINAE
Genus *Disconaias* Crosse and Fischer, 1894

Type species (by original designation): *Unio discus* Lea, 1838, "India;" later corrected by Lea to Rio Panuco drainage, state of Vera Cruz.

** *Disconaias conchos* new species **

Plate 21, figure 1

Diagnosis.-- A species of *Disconaias* with elongate-oval outline, low beaks with shallow concavity, and relatively compressed form.

Holotype.-- LACM 2257 (body preserved separately) from the Rio Conchos, about .5 km. west of Julimes, Chihuahua [State], Mexico; collected by Dwight D. Taylor and Artie L. Metcalf, August 29, 1969.

Paratypes.-- From the same locality.

Measurements

Length (mm)	Height (mm)	Width (mm)	
124	70	42	Holotype LACM 2257
119	68	42	LACM 69-239.1
117	67	44	MCZ 316166
112	56	42.5	*Unio aztecorum* forma *major* Martens(1900: 502, 672, pl. 37, figs. 3, 3a, b)

Etymology.-- Conchos, shells, in reference to the river.

Description of the Holotype.-- Shell elongate-oval, compressed, thick and solid. Anterior margin rounded asymmetrically, barely convex above, broadly convex below, passing smoothly into an almost straight ventral margin. Posterior margin with three weak angles: ventral, bordering the ventral margin; dorsal, the weakest angle, bordering the dorsal margin; and central, below the midline of the shell. Dorsal margin broadly curved, convex regularly except for the beak. Beak smooth, slightly projecting, at 68% of shell length. Beak sculpture removed by erosion. Ligament long and thick, 45 mm. long; sinus short, triangular, inconspicuous; sinulus lanceolate, impressed. Neither area nor areola distinct. Exterior surface with fine concentric raised threads and irregular coarser swellings, dark brown. Hinge plate solid, 60% of shell length. Right valve with two pseudocardinal teeth, a small anterior tooth, oblique, and a large, stout, trigonal posterior tooth, oblique, and a large, stout, trigonal posterior tooth, nearly vertical, with fine, jagged, oblique crenulations; a deep, broadly concave socket for posterior left pseudocardinal, with oblique crenulations; a small oblique tooth bordering the pseudocardinal socket; and a weakly curved, short, strong, lateral tooth. Left valve with two strong pseudocardinals, with oblique crenulations over their surfaces and on the socket between, and with two

short, strong, slightly curved lateral teeth striate on their opposing faces. Both anterior and posterior adductor and retractor-pedis muscle scars fused; protractor-pedis scars distinct and large, about one-fifth the area of the combined adductor-retractor scars. Suspensor scars conspicuous, forming an oblique series of five or six adjacent strongly impressed scars, the dorsoposterior scars within the shallow cavity of the beaks. Pallial line strong. Nacre white, with faint salmon finish.

Comparisons.-- The present species is much like that figured by Martens (1900: 502) as *Unio aztecorum*, forma *major* (plate 21, figure 2), from Playa de Misantla, Verz Cruz. It differs by the more nearly oval outline, less prominent beaks that are more posterior, straight ventral margin, and lack of posterior inflation of the shell. Some of these differences might be sexual; age difference seems excluded because the specimen illustrated by Martens is the largest he measured (112 mm.), compared to 124 mm. for the type of *D. conchos*.

The interpretation of *Unio aztecorum* forma *major* Martens has varied with later authors. Frierson (1927: 83) thought it was based on a full-grown specimen of *Lampsilis (Disconaias) fimbriata* Frierson (1907: 86), originally described from immature material, of which *Actinonaias walkeri* H. B. Baker (1922: 20) and *Unio salinaensis* Simpson ([in] Dall, 1908: 181) are synonyms. Pilsbry (1910: 533) held the opposite view and believed *L. fimbriata* and *L. aztecorum* (as illustrated by Martens) were distinct. H. B. Baker (1922: 22) discussed *L. fimbriata* and distinguished it from his *Actinonaias walkeri*, but did not mention *Unio aztectorum* forma *major*.

Actinonaias walkeri H. B. Baker, 1922 from the Rio San Juan, southern Vera Cruz, is similar in the male shells to *Disconaias conchos*. As illustrated, *A. walkeri* differs by a more strongly curved dorsal margin, with a concavity anteriad

of the beak; a blunter, more regularly rounded anterior end; and slightly more posterior beak.

Classification of species and details of synonymy in *Disconaias* cannot be resolved at this time. The interpretations by all of the authors cited are that *Lampsilis fimbriata* and *Actinonaias walkeri* are related to one another, or even synonyms, and that both are related to *Unio discus* Lea, 1838, type species of *Disconaias*. Those various nominal species all show a range of variation that includes shells with far more swollen shape and arcuate dorsal margin than in *D. conchos*.

The occurrence of *Disconaias* in the Rio Conchos is significant because its relatives are all to the southeast, in the Rio Panuco drainage and others farther south that drain into the Gulf of Mexico. None of the fishes of the region shows a similar distribution (Smith and Miller, 1986).

SPECIMENS EXAMINED

Six adult specimens were collected at the type locality. The remaining records from the Rio Conchos are based on worn fragments.

RIO GRANDE SYSTEM

Rio Conchos Drainage. State of Chihuahua, Mexico: Rio Conchos, 15 km NE Saucillo (LACM 69-240.2); 1 km N Rosetilla (LACM 69-242.1); 1.5 km NW Rosetilla (LACM 69-243.1); *all* worn valves, collected by Taylor and Metcalf; Rio Conchos, about 1.2 km W Julimes, collected by Taylor and Metcalf (LACM 69-239.1).

Rio Salado Drainage. State of Coahuila, Mexico: Rio Sabinas, Villa Juarez (LACM 95117, Huffman collection, December 1937, identified by R. I. Johnson).

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Plate 21

Figure 1. *Disconaias conchos* Taylor. Rio Conchos, about ½ km. West of Julimes, Chihuahua, Mexico. Holotype LACM 2257. Length 124 mm, height 70 mm, width 42 mm (reduced).

Figure 2. *Unio aztecorum* forma *major* Martens. Playa de Misantla, Vera Cruz, Mexico. (From Martens) Length 112 mm, height 56 mm, width 42.5 mm (reduced).

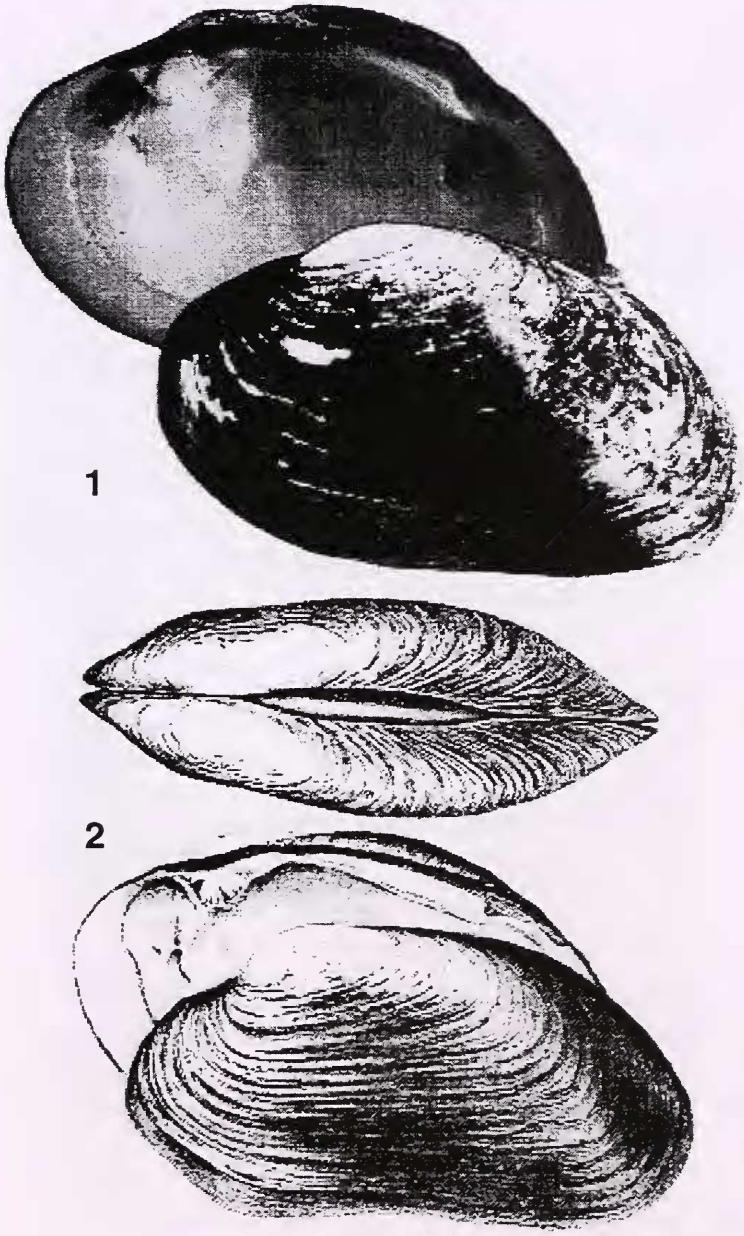

Plate 21